This listing of claims will replace all prior versions of claims in the application.

Claim 1. (currently amended) A gas control system that controls energizing an electric resistance igniter from a power source, said control system comprising:

a control device being configured and arranged so as to control operation of the electric resistance igniter;

wherein the control device is configured and arranged so as tom warm-up the electric resistance igniter to temperature at or above an ignition temperature for a gas being combusted; and

wherein the control device also is configured and arranged so that following successful ignition of the gas, operation of the electric resistance igniter is controlled so the electric resistance igniter is at a temperature less than the gas ignition temperature but above room temperature and so the electric resistance igniter can be re-heated so as to re-ignite the gas within a desired re-ignition time period.

Claim 2. (previously presented) The gas control system of claim 1, wherein the gas control system further controls operation of one or more gas control valves, which valves control the flow of gas for combustion, and wherein the control device is configured and arranged so as to open the one or more gas valves after the control device determines that the electric resistance igniter is heated to a temperature ate least equal to the gas ignition temperature.

Claim 3. (previously presented) The gas control system of claim 1, wherein the control device is configured and arranged so as to selectively control energization of the electric resistance igniter following successful ignition of the gas, where the electric resistance heater is selectively energized so that the electric resistance igniter is maintained at a predetermined temperature that is less than gas ignition temperature, which predetermined temperature is established such that a time required to reheat the electric resistance igniter from

the predetermined temperature to a minimum temperature required for ignition of the gas, is less than a desired time period for re-ignition.

Claim 4. (previously presented) The gas control system of claim 3, wherein the control device includes:

a switching mechanism operably connected between the electric resistance igniter and the power source;

a micro-controller and an applications program for execution in the micro-controller; and

wherein the applications program includes instructions and criteria for

outputting control signals to the switching mechanism to selectively control voltage and current being applied to the electric resistance igniter,

outputting control signals to the switching mechanism so as to heat the electric resistance igniter to the gas ignition temperature, and

outputting control signals to the switching mechanism, following successful ignition of the gas, to selectively heat the electric resistance igniter so as to maintain the igniter at a predetermined temperature that is less than the gas ignition temperature.

Claim 5. (previously presented) The gas control system of claim 4, wherein the applications program further includes instructions and criteria for:

heating the electric resistance igniter to the predetermined temperature that is set so that a time required to reheat the electric resistance igniter from the predetermined temperature to a minimum temperature required for ignition of the gas, is less than a desired time period for re-ignition.

Claim 6. (previously presented) A gas control system that controls energizing an electric resistance igniter from a power source and that controls operation of one or more gas control valves, which valves control the flow of gas for combustion, said gas control system comprising:

a control device being operably coupled between the electric resistance igniter and the power source and being operably connected to the one or more gas valves;

wherein the control device is configured and arranged to selectively apply a voltage to the electric resistance igniter responsive to an input signal calling for heat; and

wherein the control device is configured and arranged:

so the electric resistance igniter is heated by the selectively applied voltage so as to be at a temperature at or above a temperature for igniting the gas, a gas ignition temperature,

such that upon determining that the electric resistance igniter has been heated to the gas ignition temperature, the one or more gas valves are opened, and

such that upon determining that the gas has been successfully ignited, the voltage being applied to the electric resistance igniter is controlled so as to maintain the electric resistance igniter at an operational temperature that is less than the gas ignition temperature but above room temperature.

Claim 7. (previously presented) The gas control device of claim 6, wherein the control device is configured and arranged so the voltage being applied to the electric resistance igniter after determining that the gas has been successfully ignited is controlled so that the electric resistance igniter is at a predetermined temperature, the predetermined temperature being set so that a time required to reheat the electric resistance igniter from the predetermined temperature to a minimum temperature required for ignition of the gas, is less than a desired time period for re-ignition.

Claim 8. (currently amended) An ignition system comprising:

a control device that can control operation of an electric resistance igniter;

wherein the control device is configured to (i) heat the igniter to temperature at or above an ignition temperature for a gas being combusted; and (ii) following successful ignition of the gas, to control operation of the igniter so the igniter is at a temperature less than the gas ignition

temperature but above room temperature and so the electric resistance igniter can be re-heated so as to re-ignite the gas within a re-igniter time period.

Claim 9. (previously presented) The igniter system of claim 8 wherein an electrical resistance igniter is operably connected to the control device.

Claim 10. (previously presented) The ignition system of claim 9 wherein the electrical igniter is in resistance igniter is in electrical communication with the control device.

Claim 11. (previously presented) The ignition system of claim 8 wherein the igniter is a sintered ceramic igniter.

Claim 12. (previously presented) The ignition system of claim 8 wherein following gas ignition, the igniter is maintained at a temperature less than the gas ignition temperature but greater than ambient temperature.

Claim 13. (previously presented) The ignition system of claim 8 wherein the desired re-ignition time period is about four seconds or less.

Claim 14. (new) A gas control system that controls energizing an electric resistance igniter from a power source and that controls operation of one or more gas control valves, which valves control the flow of gas for combustion, said gas control system comprising:

a control device being operably coupled between the electric resistance igniter and the power source and being operably connected to the one or more gas valves;

wherein the control device is configured and arranged to selectively apply a voltage to the electric resistance igniter responsive to an input signal calling for heat; and

wherein the control device is configured and arranged:

so the electric resistance igniter is heated by the selectively applied voltage so as to be at a temperature at or above a temperature for igniting the gas, a gas ignition temperature,

such that upon determining that the electric resistance igniter has been heated to the gas ignition temperature, the one or more gas valves are opened, and

such that upon determining that the gas has been successfully ignited, the voltage being applied to the electric resistance igniter is controlled so as to maintain the electric resistance igniter at an operational temperature that is less than the gas ignition temperature,

wherein the control device is configured and arranged so the voltage being applied to the electric resistance igniter after determining that the gas has been successfully ignited is controlled so that the electric resistance igniter is at a predetermined temperature, the predetermined temperature being set so that a time required to reheat the electric resistance igniter from the predetermined temperature to a minimum temperature required for ignition of the gas, is less than a desired time period for re-ignition.

Claim 15. (new) A gas control system that controls energizing an electric resistance igniter from a power source, said control system comprising:

a control device being configured and arranged so as to control operation of the electric resistance igniter;

wherein the control device is configured and arranged so as tom warm-up the electric resistance igniter to temperature at or above an ignition temperature for a gas being combusted; and

wherein the control device also is configured and arranged so that following successful ignition of the gas, operation of the electric resistance igniter is controlled so the electric resistance igniter is at a temperature less than the gas ignition temperature and so the electric resistance igniter can be re-heated so as to re-ignite the gas within a desired re-ignition time period, and

the control device comprises: a switching mechanism operably connected between the electric resistance igniter and the power source; a micro-controller and an applications program for execution in the micro-controller; and wherein the applications program includes instructions and criteria for outputting control signals to the switching mechanism to selectively control voltage and current being applied to the electric resistance igniter, outputting control signals to the switching mechanism so as to heat the electric resistance igniter to the gas ignition temperature, and outputting control signals to the switching mechanism, following successful ignition of the gas, to selectively heat the electric resistance igniter so as to maintain the igniter at a predetermined temperature that is less than the gas ignition temperature.

Claim 16. (new) The gas control system of claim 1 wherein the gas control system comprises an associated gas-fired appliance.

Claim 17. (new) The gas control system of claim 6 wherein the gas control system comprises an associated gas-fired appliance.

Claim 18. (new) The gas control system of claim 8 wherein the gas control system comprises an associated gas-fired appliance.

Claim 19. (new) The gas control system of claim 14 wherein the gas control system comprises an associated gas-fired appliance.

Claim 20. (new) The gas control system of claim 15 wherein the gas control system comprises an associated gas-fired appliance.